#### RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) no errors detected.

Application Serial Number: 10/593, 89

Source:

Date Processed by STIC:

ENTERED



**IFWP** 

RAW SEQUENCE LISTING DATE: 10/03/2006
PATENT APPLICATION: US/10/593,842 TIME: 09:00:37

```
3 <110> APPLICANT: Nakamura, Yusuke
              Daigo, Yataro
             Nakatsuru, Shuichi
      7 <120> TITLE OF INVENTION: METHOD FOR DIAGNOSING NON-SMALL CELL
              LUNG CANCER
     10 <130> FILE REFERENCE: 082368-000510US
C--> 12 <140> CURRENT APPLICATION NUMBER: US/10/593,842
C--> 12 <141> CURRENT FILING DATE: 2006-09-22
     12 <150> PRIOR APPLICATION NUMBER: PCT/JP2005/005613
     13 <151> PRIOR FILING DATE: 2005-03-18
     15 <150> PRIOR APPLICATION NUMBER: US 60/555,789
     16 <151> PRIOR FILING DATE: 2004-03-23
     18 <160> NUMBER OF SEQ ID NOS: 127
     20 <170> SOFTWARE: PatentIn version 3.3
     22 <210> SEO ID NO: 1
     23 <211> LENGTH: 4908
     24 <212> TYPE: DNA
    25 <213> ORGANISM: Homo sapiens
    28 <220> FEATURE:
     29 <221> NAME/KEY: CDS
    30 <222> LOCATION: (141)..(3311)
    32 <400> SEQUENCE: 1
    33 acctgcgtgc agtcggtcct ccaggccacg cagcgcccga qagtaccagg gagactccgg
                                                                               60
    35 cccctgtegg cgccaagece ctccgcccct cacagegece aggtccgcgg ccgggecttg
                                                                              120
    37 attttttggc ggggaccgtc atg gcg tcg cag cca aat tcg tct gcg aag aag
                                                                              173
    38
                              Met Ala Ser Gln Pro Asn Ser Ser Ala Lys Lys
    39
     41 aaa gag gag aag ggg aag aac atc cag gtg gtg gtg aga tgc aga cca
                                                                              221
    42 Lys Glu Glu Lys Gly Lys Asn Ile Gln Val Val Arg Cys Arg Pro
                    15
                                        20
     45 ttt aat ttg gca gag cgg aaa gct agc gcc cat tca ata gta gaa tgt
                                                                              269
    46 Phe Asn Leu Ala Glu Arg Lys Ala Ser Ala His Ser Ile Val Glu Cys
     49 gat cet gta ega aaa gaa gtt agt gta ega aet gga gga ttg get gae
                                                                              317
    50 Asp Pro Val Arg Lys Glu Val Ser Val Arg Thr Gly Gly Leu Ala Asp
    51
            45
                                50
    53 aag agc tca agg aaa aca tac act ttt gat atg gtg ttt gga gca tct
                                                                              365
    54 Lys Ser Ser Arg Lys Thr Tyr Thr Phe Asp Met Val Phe Gly Ala Ser
                            65
    57 act aaa cag att gat gtt tac cga agt gtt gtt tgt cca att ctg gat
                                                                              413
    58 Thr Lys Gln Ile Asp Val Tyr Arg Ser Val Val Cys Pro Ile Leu Asp
                        80
                                            85
    61 gaa gtt att atg ggc tat aat tgc act atc ttt gcg tat ggc caa act
                                                                              461
```

# RAW SEQUENCE LISTING DATE: 10/03/2006 PATENT APPLICATION: US/10/593,842 TIME: 09:00:37

62 Glu Val Ile Met Gly Tyr Asn Cys Thr Ile Phe Ala Tyr Gly Gln T 63 95 100 105	hr
65 ggc act gga aaa act ttt aca atg gaa ggt gaa agg tca cct aat g	aa 509
66 Gly Thr Gly Lys Thr Phe Thr Met Glu Gly Glu Arg Ser Pro Asn G	
	-u
67 110 115 120	
69 gag tat acc tgg gaa gag gat ccc ttg gct ggt ata att cca cgt a	
70 Glu Tyr Thr Trp Glu Glu Asp Pro Leu Ala Gly Ile Ile Pro Arg T	hr
71 125 130 135	
73 ctt cat caa att ttt gag aaa ctt act gat aat ggt act gaa ttt t	ca 605
74 Leu His Gln Ile Phe Glu Lys Leu Thr Asp Asn Gly Thr Glu Phe S	
	55
77 gtc aaa gtg tct ctg ttg gag atc tat aat gaa gag ctt ttt gat c	
78 Val Lys Val Ser Leu Leu Glu Ile Tyr Asn Glu Glu Leu Phe Asp L	eu ·
79 160 165 170	
81 ctt aat cca tca tct gat gtt tct gag aga cta cag atg ttt gat g	at 701
82 Leu Asn Pro Ser Ser Asp Val Ser Glu Arg Leu Gln Met Phe Asp A	
83 175 180 185	F
	740
85 ccc cgt aac aag aga gga gtg ata att aaa ggt tta gaa ga	
86 Pro Arg Asn Lys Arg Gly Val Ile Ile Lys Gly Leu Glu Glu Ile T	hr
87 190 195 200	
89 gta cac aac aag gat gaa gtc tat caa att tta gaa aag ggg gca g	ca 797
90 Val His Asn Lys Asp Glu Val Tyr Gln Ile Leu Glu Lys Gly Ala A	
91 205 210 215	
	.cc 845
93 aaa agg aca act gca gct act ctg atg aat gca tac tct agt cgt t	
94 Lys Arg Thr Thr Ala Ala Thr Leu Met Asn Ala Tyr Ser Ser Arg S	er
95 220	
25 220 230 2	35
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g	
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g	at 893
	at 893
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250	at 893 sp
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt	at 893 .sp gca 941
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu	at 893 .sp gca 941
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265	at 893 .sp gca 941 Ala
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct	at 893 .sp gca 941 Ala cgg 989
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265	at 893 .sp gca 941 Ala cgg 989
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct	at 893 .sp gca 941 Ala cgg 989
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280	at 893 sp gca 941 Ala cgg 989 Arg
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc	gca 941 Ala cgg 989 Arg att 1037
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val	gca 941 Ala cgg 989 Arg att 1037
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295	at 893 sp gca 941 Ala cgg 989 Arg att 1037 Ile
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295 113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct	gca 941 Ala cgg 989 Arg att 1037 Ile aaa 1085
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295 113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser	gca 941 Ala cgg 989 Arg att 1037 Ile aaa 1085
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295 113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser	gca 941 Ala cgg 989 Arg att 1037 Ile aaa 1085
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295 113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310	at 893 .sp  gca 941 Ala cgg 989 Arg  att 1037 Ile aaa 1085 Lys 315
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295 113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310 117 cta act aga atc ctc cag gat tct ctt gga ggg cgt aca aga aca	gca 941 Ala cgg 989 Arg att 1037 Ile aaa 1085 Lys 315 tct 1133
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295 113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310 117 cta act aga atc ctc cag gat tct ctt gga ggg cgt aca aga aca 118 Leu Thr Arg Ile Leu Gln Asp Ser Leu Gly Gly Arg Thr Arg Thr	gca 941 Ala cgg 989 Arg att 1037 Ile aaa 1085 Lys 315 tct 1133
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250  101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265  105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280  109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295  113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310  117 cta act aga atc ctc cag gat tct ctt gga ggg cgt aca aga aca 118 Leu Thr Arg Ile Leu Gln Asp Ser Leu Gly Gly Arg Thr Arg Thr 119 320 325 330	at 893 sp  gca 941 Ala  cgg 989 Arg  att 1037 Ile  aaa 1085 Lys 315 tct 1133 Ser
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295 113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310 117 cta act aga atc ctc cag gat tct ctt gga ggg cgt aca aga aca 118 Leu Thr Arg Ile Leu Gln Asp Ser Leu Gly Gly Arg Thr Arg Thr 119 320 325 330 121 ata att gca aca att tct cct gca tct ctc aat ctt gag gaa act	at 893 sp  gca 941 Ala  cgg 989 Arg  att 1037 Ile  aaa 1085 Lys 315 tct 1133 ser  ctg 1181
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250  101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265  105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280  109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295  113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310  117 cta act aga atc ctc cag gat tct ctt gga ggg cgt aca aga aca 118 Leu Thr Arg Ile Leu Gln Asp Ser Leu Gly Gly Arg Thr Arg Thr 119 320 325 330  121 ata att gca aca att tct cct gca tct ctc aat ctt gag gaa act 122 Ile Ile Ala Thr Ile Ser Pro Ala Ser Leu Asn Leu Glu Glu Thr	at 893 sp  gca 941 Ala  cgg 989 Arg  att 1037 Ile  aaa 1085 Lys 315 tct 1133 ser  ctg 1181
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250 101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280 109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295 113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310 117 cta act aga atc ctc cag gat tct ctt gga ggg cgt aca aga aca 118 Leu Thr Arg Ile Leu Gln Asp Ser Leu Gly Gly Arg Thr Arg Thr 119 320 325 330 121 ata att gca aca att tct cct gca tct ctc aat ctt gag gaa act	at 893 sp  gca 941 Ala  cgg 989 Arg  att 1037 Ile  aaa 1085 Lys 315 tct 1133 ser  ctg 1181
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250  101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265  105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280  109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295  113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310  117 cta act aga atc ctc cag gat tct ctt gga ggg cgt aca aga aca 118 Leu Thr Arg Ile Leu Gln Asp Ser Leu Gly Gly Arg Thr Arg Thr 119 320 325 330  121 ata att gca aca att tct cct gca tct ctc aat ctt gag gaa act 122 Ile Ile Ala Thr Ile Ser Pro Ala Ser Leu Asn Leu Glu Glu Thr	at 893 ssp  gca 941 Ala  cgg 989 Arg  att 1037 Ile  aaa 1085 Lys 315 tct 1133 Ser  ctg 1181 Leu
97 cac tca gtt ttc tct gtt aca ata cat atg aaa gaa act acg att g 98 His Ser Val Phe Ser Val Thr Ile His Met Lys Glu Thr Thr Ile A 99 240 245 250  101 gga gaa gag ctt gtt aaa atc gga aag ttg aac ttg gtt gat ctt 102 Gly Glu Glu Leu Val Lys Ile Gly Lys Leu Asn Leu Val Asp Leu 103 255 260 265  105 gga agt gaa aac att ggc cgt tct gga gct gtt gat aag aga gct 106 Gly Ser Glu Asn Ile Gly Arg Ser Gly Ala Val Asp Lys Arg Ala 107 270 275 280  109 gaa gct gga aat ata aat caa tcc ctg ttg act ttg gga agg gtc 110 Glu Ala Gly Asn Ile Asn Gln Ser Leu Leu Thr Leu Gly Arg Val 111 285 290 295  113 act gcc ctt gta gaa aga aca cct cat gtt cct tat cga gaa tct 114 Thr Ala Leu Val Glu Arg Thr Pro His Val Pro Tyr Arg Glu Ser 115 300 305 310  117 cta act aga atc ctc cag gat tct ctt gga ggg cgt aca aga aca 118 Leu Thr Arg Ile Leu Gln Asp Ser Leu Gly Gly Arg Thr Arg Thr 119 320 325 330  121 ata att gca aca att tct cct gca tct ctc aat ctt gag gaa act 122 Ile Ile Ala Thr Ile Ser Pro Ala Ser Leu Asn Leu Glu Glu Thr 123 335	at 893 ssp  gca 941 Ala  cgg 989 Arg  att 1037 Ile  aaa 1085 Lys 315 tct 1133 Ser  ctg 1181 Leu  cct 1229

# RAW SEQUENCE LISTING DATE: 10/03/2006 PATENT APPLICATION: US/10/593,842 TIME: 09:00:37

105			250					255					260				
127			350	~~~				355					360		L - L		1077
	_			-						_		att	_			_	1277
	GIU		ASII	GIII	ьys	ьeu		ьys	ьуѕ	Ala	ьeu	Ile	пĀг	GIU	Tyr	Thr	
131		365					370					375					1205
												gca					1325
		GIU	тте	GIU	Arg		ьys	Arg	Asp	ьeu		Ala	Ата	Arg	GIU	_	
	380					385					390					395	1252
												gtc					1373
	Asn	GIY	vaı	Tyr		ser	GIU	GIU	Asn		Arg	Val	мес	ser		ьуs	
139					400					405					410		1 4 0 1
			_		_		_		_	_	_	att	_				1421
	ьeu	THE	vaı		GIU	GIU	GIII	тте		GIU	ьeu	Ile	GIU	-	тте	GIY	
143	~~+	~++	~~~	415	~~~	~+~			420		~~~	++~		425	~~+		1460
												ttg					1469
	Ата	vai		GIU	GIU	ьeu	Asn	_	vai	Thr	GIU	Leu		Met	Asp	ASI	
147			430		~~~			435		~~~			440				1517
												caa					1517
	ьуѕ	445	GIU	ъeп	Asp	GIII	450	пур	ser	Asp	теп	Gln 455	ASII	цуѕ	1111	GIII	
151	~~~		~~~	200	a a t	<b>a</b> aa		ant.	++~	<b>a</b> aa	~~~		222	++-	<b>a</b> aa	att	1565
	_		_						_		_	act Thr					1565
	460	пеп	GIU	1111	1111	465	пуъ	піз	ьец	GIII	470	IIII	цуб	цец	GIII	475	
		222	<b>~</b> ~~	~~~	+ > +		202	+ 00	aat	++~		2 <b>4</b> +	aat	~~~	a . a		1613
												agt Ser					1013
159	vai	пуз	Giu	Giu	480	116	1111	DET	Ата	485	GIU	Ser	1111	GIU	490	цуз	
	ctt	cat	aat	act		200	224	cta	att		202	gtt	~==	<b>~</b> 22		202	1661
			_	_	_	_	_	_				Val	_	_			1001
163	Deu	1110	nsp	495	nia	DCI	Lys	neu	500	Abii	1111	vai	Oru	505	1111		
	aaa	σat.	σta		aat.	ctc	cat	taa		cta	gat.	cgt	aaσ		qca	att	1709
												Arg					_,,,,
167	-2		510		2			515	_1			3	520	-2			
	gac	caa	cac	aat	gca	gaa	act	cag	gat	att	ttt	ggc	aaa	aac	cta	aat	1757
	_				_	_	_	_	_			Gly			_		
171	-	525					530		•			535	•				
173	aqt	ctq	ttt	aat	aat	atq	qaa	qaa	tta	att	aaq	gat	qqc	agc	tca	aaq	1805
												Asp					
	540					545					550	_	_			555	
177	caa	aag	gcc	atg	cta	gaa	gta	cat	aag	acc	tta	ttt	ggt	aat	ctg	ctg	1853
												Phe					
179					560					565					570		
181	tct	tcc	agt	gtc	tct	gca	tta	gat	acc	att	act	aca	gta	gca	ctt	gga	1901
182	Ser	Ser	Ser	Val	Ser	Āla	Leu	Asp	Thr	Ile	Thr	Thr	Val	Ala	Leu	Gly	
183				575					580					585			
185	tct	ctc	aca	tct	att	cca	gaa	aat	gtg	tct	act	cat	gtt	tct	cag	att	1949
186	Ser	Leu	Thr	Ser	Ile	Pro	Glu	Asn	Val	Ser	Thr	His	Val	Ser	Gln	Ile	
187			590					595					600				
												gca					1997
190	Phe	Asn	Met	Ile	Leu	Lys	Glu	Gln	Ser	Leu	Ala	Ala	Glu	Ser	Lys	Thr	
191		605					610					615					

### RAW SEQUENCE LISTING DATE: 10/03/2006 PATENT APPLICATION: US/10/593,842 TIME: 09:00:37

														cta			2045
		Leu	Gln	Glu	Leu		Asn	Val	Leu	Lys		Asp	Leu	Leu	Ser		
	620					625					630					635	0.000
		_	_										_	aaa			2093
198	ьeu	GIU	Met	тте	640	ser	PIO	THE	val.	645	ser	тте	ьeu	Lys	650	ASII	
	aαt	caa	cta	aaq		att	ttc	aad	act		tta	aca	ata	gcc		aaq	2141
	_			_							_			Ala	_	_	2211
203		<b></b>		655				-1-	660	~~-				665		-12	
	ata	gaa	gat	caa	aaa	aag	gaa	cta		ggc	ttt	ctc	agt	ata	ctg	tgt	2189
206	Ile	Glu	Asp	Gln	Lys	Lys	Glu	Leu	Asp	Gly	Phe	Leu	Ser	Ile	Leu	Cys	
207			670					675					680				
					_			_				_		ttg	_		2237
210	Asn		Leu	His	Glu	Leu		Glu	Asn	Thr	Ile	_	Ser	Leu	٧al	Glu	
211		685					690					695					
			_		_					_	-	_	_	aca		_	2285
		GIn	Lys	GIn	Cys	_	Asn	Leu	Thr	GIU	_	Leu	Lys	Thr	тте	_	
	700	200	ast	+ a a	~~~	705	a++	+~~	224	++-	710	<del>+</del>	a++	+~~	2.62	715	2222
	_				_	-		_	_		_			tgg Trp			2333
219	GIII	TIIT	птъ	Ser	720	Gru	пеп.	Cys	пуs	725	MEC	ASII	neu	тър	730	GIU	
	aga	ttc	tat	act		gag	gaa	aaσ	tat		aat	ata	caq	aaa		ctt	2381
														Lys			2302
223	5		-1-	735				-1 -	740					745			
225	agt	agt	gtc	cag	gaa	aat	ata	cag	cag	aaa	tct	aag	gat	ata	gtc	aac	2429
	_	_	-	_	-							-	_	Ile	-		
227			750					75 <b>5</b>					760				
														gat			2477
	Lys		Thr	Phe	His	Ser		Lys	Phe	Cys	Ala	_	Ser	Asp	Gly	Phe	
231		76 <u>5</u>					770					775					
		_	_		_					_				ttg	_	-	2525
		GIN	GIU	ьeu	Arg		Pne	Asn	GIN	GIU	_	Tnr	гаг	Leu	vai		
	780	tat	at a	222	a = a	785 tat	ant.	222	ata	22t	790	220	ata	gaa	222	795 ata	2573
	-						_							Glu			2313
239	Olu	JCI	Val	цуз	800	DCI	пор	цуз	БСи	805	OLY	Abii	шец	Olu	810	110	
	tct	caa	gag	act		caq	aga	tat	gaa		cta	aac	aca	aga		att	2621
														Arg			
243				815			-	•	820					825			
245	tat	ttt	tct	gaa	cag	tgg	gta	tct	tcc	tta	aat	gaa	agg	gaa	cag	gaa	2669
246	Tyr	Phe	Ser	Glu	Gln	${\tt Trp}$	Val	Ser	Ser	Leu	Asn	Glu	Arg	Glu	Gln	Glu	
247			830					835					840				
														gct			2717
	Leu		Asn	Leu	Leu	Glu		Val	Ser	Gln	Cys	_	Glu	Ala	Ser	Ser	
251		845		_			850					855					
														cat			2765
		Asp	тте	Thr	GIU	_	ser	Asp	Gly	Arg	_	Ala	Ala	His	GIU	-	
	860	<b>a</b> > <b>+</b>		2++	+++	865	~~+		- + ~		870	~~ L	~	~~+		875	2012
25/	cag	cat	aac	act	נננ	CLL	gat	cag	acg	act	act	gat	gaa	gat	aaa	ctg	2813

RAW SEQUENCE LISTING DATE: 10/03/2006
PATENT APPLICATION: US/10/593,842 TIME: 09:00:37

258 259	Gln	His	Asn	Ile	Phe 880	Leu	Asp	Gln	Met	Thr 885	Ile	Asp	Glu	Asp	Lys 890	Leu	
261	ata	qca	caa	aat	cta	qaa	ctt	aat	qaa	acc	ata	aaa	att	aat	tta	act	2861
												Lys					
263				895					900			-1-		905			
	224	att	22t		+++	ata	~ = =	C 2 C		ata	222	ctg	cat		CC2	202	2909
																	2303
	ьуѕ	Leu		Cys	Pne	ьeu	GIU		Asp	ьeu	ьуѕ	Leu	_	тте	PIO	Int	
267			910					915					920				
		_			_			_				cca					2957
270	Gly	Thr	Thr	Pro	Gln	Arg	Lys	Ser	Tyr	Leu	Tyr	Pro	Ser	Thr	Leu	Val	
271		925					930					935					
273	aga	act	gaa	cca	cgt	gaa	cat	ctc	ctt	gat	cag	ctg	aaa	agg	aaa	cag	3005
274	Arg	Thr	Glu	Pro	Arg	Glu	His	Leu	Leu	Asp	Gln	Leu	Lys	Arg	Lys	Gln	
275	940				_	945				_	950		_			955	
		gag	cta	tta	ato	ato	cta	aac	tat	t.ca	gaa	aac	aac	aaa	gaa	gag	3053
		-	-		_	_			_		_	Asn			_		
279	110	014	шси	<b>L</b> Cu	960	1100	LCu	11011	CyD	965	OIU	21011	11011	<b>1</b> 1715	970	O.L.	
	202		~~~	~~+		~~+	~+-	~~~	~~~		~++	a+ a	~~~	<b>4</b> 24		agt	3101
												ctg					3101
	THE	TIE	PIO	_	vaı	Asp	vai	GIU		Ата	vai	Leu	GIY		ıyı	III	
283				975					980					985			2140
																t tgt	3149
	GIu	Glu		Leu	Ser	GIn	Glu		Ser	Val	Asp	Ala	-		L Ası	o Cys	
287			990					995					1000	)			
289	tca	tca										at aa		aaa t			3194
290	Ser	Ser	Ile	e Gly	/ Gly	/ Val	l Pro	) Pł	ie Pł	ne Gl	ln H:	is Ly	/s I	ys S	Ser 1	His	
291		1005	5				101	LO				10	15				
293	gga	aaa	gad	c aaa	a gaa	a aac	aga	ı gg	gc at	t aa	ac ac	ca ct	g	gag a	agg 1	tct	3239
294	Gly	Lys	Asp	) Lys	s Glu	ı Ası	n Arg	g G]	ly Il	le As	sn Th	ar Le	eu (	Glu A	Arg S	Ser	
295		1020	)				102	25				10	030				
297	aaa	qtq	qaa	a qaa	a act	aca	a gag	g Ca	ac tt	g gt	t ac	ca aa	ag a	agc a	aga 1	tta <sup>.</sup>	3284
298	Lvs	Val					Gli		is Le	eu Va	al Tì	ar Ly	,s 8	Ser A	Arq 1	Leu	
299	•	1035					104						)45		-		
	cat			a aca	cac	ato			it ta	aa tt	cact	ttggg		taad	caat		3331
		Leu	_	_			Ası					55.	٠ د د	35			
303		1050		,		•	109										
	ttt:			2002	aaat	-t as			cct	- 0222	2000	caca	aactt	a c	recti	tgtgta	3391
										-		_				cccagc	3451
	-																3511
				_				_	_	_		_			_	ctggcc	3571
					-											ctgtaa	
		-				_			-		-			_		gttgca	3631
																tctcaa	3691
																tatcta	3751
																ggattt	3811
																tgaaaa	3871
																agcttg	3931
325	agct	taac	cat a	aggta	aata	at ca	accaa	cato	tgt:	cctt	aga	aagg	gacca	atc t	cat	gttttt	3991
327	tttc	ettgo	cta t	gact	tgt	gt at	tttc	ttg	ato	cctcc	ccta	gact	tcc	cta t	ttc	gctttc	4051
329	tcct	cggc	ctc a	actt	ctc	c tt	ttta	ittt	tca	accaa	aacc	attt	gtag	gag d	ctaca	aaaacc	4111
													-			ttttag	4171
					-	-	_				-					_	

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 10/03/2006 PATENT APPLICATION: US/10/593,842 TIME: 09:00:38

Input Set : A:\082368-000510US.txt

Output Set: N:\CRF4\10032006\J593842.raw

#### Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31 Seq#:32,33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,52,53,54,55 Seq#:56,57,58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75,76,77,78,79 Seq#:80,81,82,83,84,85,86,87,88,89,90,91,92,93,94,95,96,97,98,99,100,101,102 Seq#:103,108,109,110,111,114,115,116,117,118,119,120,121,122,123,124,125,126 Seq#:127

VERIFICATION SUMMARY DATE: 10/03/2006 TIME: 09:00:38 PATENT APPLICATION: US/10/593,842

Input Set : A:\082368-000510US.txt

Output Set: N:\CRF4\10032006\J593842.raw

L:12 M:270 C: Current Application Number differs, Replaced Current Application No L:12 M:271 C: Current Filing Date differs, Replaced Current Filing Date